7.0 RESULTS

Summary tables for each parameter monitored are listed in this section. These summary tables provide a snap shot of the total number of samples collected as well as the minimum, median, and maximum concentrations detected.

Limited data was available for toxicity, TSS, TOC, partial minerals, and trace elements. Depending on the site, toxicity was analyzed in January, March, April, and May. The TSS, TOC, partial minerals and trace element samples were analyzed from March through June 2003 at all sites.

Data was also limited depending on the ephemeral nature of some sites. Data sets for Duck Creek at Highway 4 (SJC201), Littlejohns Creek at Austin Road (SJC213), MID Lateral ¾ at Paradise Road (STC204), Curtis Creek at Algerine Road (TUO209), and MID Main Drain at Shoemake Road (STC211) show reduced number of sampling events due to dry periods.

For samples with results reported at less than the reporting detection limit (RDL), the concentration was set to half the RDL to calculate the median.

Tables 5 through 12 list results for the sites sorted by the following subareas:

- Table 5 - Farmington Drainage Area
- Table 6 - Valley Floor Drainage Area Drains
- Table 7 - Valley Floor Drainage Area Laterals
- Table 8 - Stanislaus River Watershed
- Table 9 - Tuolumne River Watershed Tributaries (sites with full data sets)
- Table 10 - Tuolumne River Mainstem (sites with full data sets)
- Table 11 - Tuolumne River Watershed (sites with partial data sets)
- Table 12 - Merced River Watershed

Sampling sites in Tables 5, 8, 9, 10, 11, and 12 are arranged from left to right, upper watershed to lower watershed. Additionally, sites on tributaries in Tables 9 and 11 are arranged from left to right, north to south. In Table 5, Duck Creek at Highway 4 (SJC201) is listed to the far right since Duck Creek drains into French Camp Slough downstream of the sampling site on French Camp Slough. Sampling sites in Tables 6 and 7 are arranged from left to right, north to south. The tables are also arranged by constituent from top to bottom: field constituents; Total Suspended Solids (TSS); Total Organic Carbon (TOC), total coliform (T. Coli), *E. coli*, Toxicity; partial minerals; and trace elements.

Photo monitoring was also conducted at least monthly at each site. Photo monitoring is depicted in Appendix A.

Table 5 Summary Results: Farmington Drainage Area, January 2003 - April 2004

	STC212					SJC213				SJC503				SJC504				SJC201			
	Littlejohns Creek at Sonora Road					Littlejohns Creek at Austin Road				Lone Tree Creek at Austin Road				French Camp Slough at Airport Way				Duck Creek at Highway 4			
Constituent	**Ct.**	**Min**	**Median**	**Max**		**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**
Field Constituents, TSS, TOC,						***E. coli,* Toxicity**															
Temp (-C)	25	8	20	30		15	6.1	20	29	23	4.7	20	25	26	6	17	25	13	8.5	24	27
DO (mg/L)	25	7.3	9.5	14.8		15	3.74	8.8	16.4	23	5.82	8.4	18.5	26	5.77	9.8	17.3	13	5.93	7.9	13.5
pH	25	7.5	7.8	8		15	7.2	7.6	9.7	23	7.1	7.5	9.3	26	7.4	7.7	8.9	13	7.3	7.4	8
SC (umhos/cm)	25	98	162	545		15	91	221	614	23	87	186	520	26	98	168	549	13	97	116	193
Turbidity (NTU)	24	0.5	1.4	44		14	16	38.7	95	22	26	47	78	25	2.2	53	179	13	34	49	192
TSS (mg/L)	7	<4.0	4	<5.0		3	15	30	45	5	26	36	57	6	28	45	62	4	4.4	18	33
TOC (mg/L)	8	1.5	3.1	6		3	6.6	17.0	29	7	4.2	6.9	11	7	3.3	5.6	7.3	5	3.9	4.7	10
T. Coli (MPN)	25	162	1986	>2420		15	1553	>2420	>2420	22	>2420	>2420	>2420	25	727	>2420	>2420	13	>2420	>2420	>2420
E. coli (MPN)	25	9	162	>2420		15	30	139	>2420	22	78	488	>2420	25	20	397	2420	13	10	101	>2420
48 Hour Tox																					
96 Hour Tox																					
Partial Minerals (mg/L)																					
Boron	5	0.07	0.14	0.81		4	0.07	0.13	0.18	5	<0.05	<0.05	0.07	5	<0.05	0.03	0.15	4	<0.05	<0.05	<0.05
Calcium	5	10	14	35		4	17	28.5	54	5	11	16	28	5	9.6	15	16	4	9.4	11	13
Magnesium	5	5.5	8.8	25		4	9.2	15	29	5	4.3	7.1	12	5	4.4	6.4	9.6	4	4.1	4.7	6.1
Chloride	4	2.7	5.1	31		4	5.7	18	36	5	3.6	5.6	8.4	5	3.9	4.5	9.9	4	3.6	4.2	7.3
Sulfate	4	3.3	11.6	130		4	4	28	35	5	4.2	5.6	9.2	5	4.4	6.0	28	4	3.2	4.3	10
Hardness	5	48	71	190		4	80	133	250	5	46	68	120	5	42	64	80	4	40	45	58
Total Trace Elements (ug/L)																					
Copper	5	<1.0	1	1.7		4	3.6	5.4	7.9	5	3.5	6.6	14	5	4.8	5.5	6.5	4	2.8	4.2	7.4
Cadmium	5	<0.1	<0.1	<0.1		4	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1
Zinc	5	<2.0	<2.0	<2.0		4	<2.0	5.3	6.3	5	6.6	8.3	14	5	7	8.0	8.8	4	3.2	4.6	8.2
Mercury	5	<0.2	<0.2	<0.2		4	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2
Arsenic	5	<4.0	2.0	6.8		4	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0	4	<4.0	<4.0	<4.0
Chromium	5	<1.0	<1.0	<1.0		4	<1.0	0.9	1.6	5	<1.0	1.6	2.5	5	<1.0	2.1	2.8	4	<1.0	1.2	2.7
Lead	5	<5.0	<5.0	<5.0		4	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	4	<5.0	<5.0	<5.0
Nickel	5	<5.0	<5.0	<5.0		4	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	4	<5.0	<5.0	<5.0

DRAINAGE BASIN

Table 6 Summary Results: Valley Floor Drainage Area Drains, January 2003 - April 2004

Constituent	STC211				STC202				STC501			
	MID Main Drain at Shoemake Rd				MID Main Drain Inlet to Miller Lake				TID Harding Drain at Carpenter Road			
	Ct.	Min	Median	Max	Ct.	Min	Median	Max	Ct.	Min	Median	Max
Field Constituents, TSS, TOC, E. coli, Toxicity												
Temp (-C)	24	6.4	18	25	2	7.4		13	27	14	19	26
DO (mg/L)	24	0.4	5.7	15.8	2	7.3		11.7	27	7.63	9.6	15.3
pH	24	7	7.5	8.4	2	7.9		8.3	27	7.3	7.7	8.5
SC (umhos/cm)	24	172	369.5	848	2	372		542	27	404	766	1190
Turbidity (NTU)	23	4.1	34.7	298	2	33		55	25	3	7	698
TSS (mg/L)	6	6	14.5	99					4	4.8	7.2	10
TOC (mg/L)	7	4.8	11	42					8	2.8	4.6	12
T. Coli (MPN)	23	2420	>2420	>2420	2	>2420		>2420	24	1733	>2420	>2420
E. coli (MPN)	23	37	>2420	>2420	2	144		326	24	93	423	1300
48 Hour Tox									2	90	95	100
96 Hour Tox									2	100	100	100
Partial Minerals (mg/L)												
Boron	5	<0.05	0.06	0.08					6	0.06	0.08	0.1
Calcium	5	19	30	51					5	25	28	34
Magnesium	5	8.6	14	22					5	6.6	8.9	14
Chloride	5	9.7	13	32					5	40	50	64
Sulfate	5	7.3	12	19					5	18	32	45
Hardness	5	86	130	220					5	90	110	140
Total Trace Elements (ug/L)												
Copper	5	1.4	6.8	24					6	1.9	2.5	30
Cadmium	5	<0.1	<0.1	<0.1					6	<0.1	<0.1	0.2
Zinc	5	<2.0	8.2	190					6	6.9	13	140
Mercury	5	<0.2	<0.2	<0.2					6	<0.2	<0.2	<0.2
Arsenic	5	<4.0	2.0	6					6	<4.0	3.1	7.5
Chromium	5	<1.0	1.2	3.2					6	<1.0	<1.0	16
Lead	5	<5.0	<5.0	<5.0					6	<5.0	<5.0	14
Nickel	5	<5.0	<5.0	<5.0					6	<5.0	<5.0	13

Table 7 Summary Results: Valley Floor Drainage Area Laterals, January 2003 - April 2004

Constituent	STC203 MID Lateral 6/8 at Dunn Road				STC204 MID Lateral 3/4 at Paradise Road				STC208 TID Lower Lateral 2 at Grayson				MER201 TID Lateral 6/7 at Central Ave				MER203 TID Lateral 7 at Central Ave			
	Ct.	Min	Median	Max	Ct.	Min	Median	Max	Ct.	Min	Median	Max	Ct.	Min	Median	Max	Ct.	Min	Median	Max
Field Constituents, TSS, TOC, E. coli, Toxicity																				
Temp (-C)	20	6	21	27	18	14	21	25	21	8.6	19	24	7	8.8	16	19	16	12	22	25
DO (mg/L)	20	6.86	10.2	19.2	18	5.48	10.2	19.6	20	1.24	10.4	15.6	7	10.5	14.9	18.2	16	9.05	10.8	17.3
pH	20	7.6	8.0	8.9	18	7.8	8.1	9.1	21	7.1	8.4	9.4	7	7.7	7.9	8.5	16	7.5	7.8	8.3
SC (umhos/cm)	20	42	112	743	18	109	227.5	638	21	108	196	994	7	354	944	1120	16	290	487	1200
Turbidity (NTU)	20	3.8	10.6	659	18	1.5	6.3	12	21	1	4.8	31	7	0.8	2.2	29	14	0	6.6	35
TSS (mg/L)	6	<4.0	6.2	12	4	<4.0	2.0	7.2	5	<4.0	2.0	4.8	1	9.6			4	<4.0	6.6	10
TOC (mg/L)	7	2.2	3.2	6.2	7	1.8	2.8	3.7	7	1.5	2.1	3.3	2	5.2		5.7	4	3.7	4.2	10
T. Coli (MPN)	20	411	>2420	>2420	18	491	1860	>2420	21	260	2420	>2420	7	689	>2420	>2420	16	1011	>2420	>2420
E. coli (MPN)	20	2	74	>2420	18	9	111	>2420	21	2	25	98	7	58	173	>2420	16	17	85	1986
48 Hour Tox																				
96 Hour Tox																				
Partial Minerals (mg/L)																				
Boron	5	<0.05	<0.05	<0.05	5	<0.05	0.03	0.1	5	<0.05	<0.05	0.05	1	<0.05			4	<0.05	0.06	0.17
Calcium	5	4.4	16.0	18	5	10	18	40	5	10	11	18	1	29			3	24	26	39
Magnesium	5	1.9	6.6	7.9	5	3.9	8.7	15	5	3.7	3.8	6.4	1	8.8			3	7.5	9.2	12
Chloride	5	2.5	6.6	30	5	4.9	11	40	5	8.7	10	25	1	19			3	17	26	26
Sulfate	5	2.5	5.7	10	5	5.2	10	25	5	6.2	7	10	1	16			3	13	17	21
Hardness	5	19	67	78	5	8.6	71	160	5	41	43	71	1	110			3	92	110	150
Total Trace Elements (ug/L)																				
Copper	5	1.2	2.8	3.7	5	1	1.1	2.5	5	<1.0	1.4	1.9	2	4.4		5.2	3	2.4	3	3.7
Cadmium	5	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1	2	<0.1		<0.1	3	<0.1	<0.1	<0.1
Zinc	5	2.8	3.8	18	5	<2.0	1	5.9	5	<2.0	1.0	5.7	2	<2.0		<2.0	3	<2.0	1	4.8
Mercury	5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	2	<0.2		<0.2	3	<0.2	<0.2	<0.2
Arsenic	5	<4.0	<4.0	<4.0	5	<4.0	2.0	4.3	5	<4.0	<4.0	<4.0	2	<4.0		4.9	3	<4.0	4.3	5.7
Chromium	5	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	2	<1.0		<1.0	3	<1.0	<1.0	<1.0
Lead	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	2	<5.0		<5.0	3	<5.0	<5.0	<5.0
Nickel	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	2	<5.0		<5.0	3	<5.0	<5.0	<5.0

Table 8 Summary Results: Stanislaus River Watershed, January 2003 - April 2004

	CAL201				TUO201					STC201				STC514			
	Stanislaus River at Camp Nine Road				Stanislaus River at Parrott's Ferry					Stanislaus River at Knight's Ferry				Stanislaus River at Caswell State Park			
Constituent	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**		**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**
Field Constituents, TSS, TOC, E. coli, Toxicity																	
Temp (-C)	1	5.8			2	12		12		22	10	13	15	27	7.4	15	23
DO (mg/L)	1	13			2	9.7		10.8		22	11.1	12.	14	27	7.9	10.3	15.1
pH	1	8			2	7.3		7.5		22	7.6	8	8.2	27	7.5	7.7	8.1
SC (umhos/cm)	1	37			2	56		58		22	51	61	86	27	64	95	155
Turbidity (NTU)	1	2.5			2	0.5		1.3		22	0	0.7	1.5	27	0.8	5.6	37
TSS (mg/L)										7	<4.0	<4.0	<5.0	6	<4.0	8	8.8
TOC (mg/L)										8	<1.0	1.5	2.6	7	1.6	2.1	2.6
T. Coli (MPN)	1	16			2	6		46		22	36	235	1300	25	122	>2420	>2420
E. coli (MPN)	1	4			2	<1		<1		22	2	9	71	25	21	67	1120
48 Hour Tox														4	100	100	100
96 Hour Tox														4	100	100	100
Partial Minerals (mg/L)																	
Boron										5	<0.05	<0.05	<0.05	6	<0.05	<0.05	<0.05
Calcium										5	6	6.4	6.8	5	6.7	7.2	10
Magnesium										5	1.9	2.0	2.6	5	2.2	2.5	4.4
Chloride										4	<2.0	2.1	2.3	5	2.2	2.5	5.4
Sulfate										4	2.6	2.8	3	5	2.7	3.0	4.6
Hardness										5	23	24	28	5	26	28	43
Total Trace Elements (ug/L)																	
Copper										5	<1.0	0.5	1.1	5	<1.0	1.4	2.1
Cadmium										5	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1
Zinc										5	<2.0	<2.0	<2.0	5	<2.0	1.0	4.9
Mercury										5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2
Arsenic										5	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0
Chromium										5	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0
Lead										5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0
Nickel										5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0

IMPOUNDMENT

Table 9 Summary Results: Tuolumne River Watershed Tributaries (sites with full data sets), January 2003 - April 2004

	TUO208				TUO202				TUO207				TUO209					STC206			
	Woods Creek at Motherload				Woods Creek at Mill Villa Drive				Sullivan Creek at Algerine Road				Curtis Creek at Algerine Road					Dry Creek at la Loma Road			
Constituent	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**		**Ct.**	**Min**	**Median**	**Max**
Field Constituents, TSS, TOC, *E. coli*, Toxicity																					
Temp (-C)	23	6.3	14	23	26	6.3	13	23	24	5.8	13	23	10	6.2	11	28		26	5.8	16	26
DO (mg/L)	23	8.56	10.5	15.6	26	8.58	10.9	15.8	24	7.62	10.7	15.1	10	9.14	12.8	16		26	6	8.6	16
pH	23	7.8	8.2	8.6	26	7.1	8	8.2	24	7.5	7.9	8.2	10	7.7	8.2	8.7		26	7.2	7.5	8.1
SC (umhos/cm)	23	88	285	443	26	113	372.5	492	24	86	110	170	10	109	247.5	317		26	98	129	369
Turbidity (NTU)	22	1.5	4.2	142	25	2.3	5.3	153	23	1.7	5.9	200	9	0.7	4.2	300		25	1.2	19.2	54
TSS (mg/L)	7	<4.0	5.2	10	7	<4.0	<5.0	11	7	<4.0	<5.0	16	3	<4.0	<4.0	<4.0		6	5.6	17	24
TOC (mg/L)	8	1.7	2.3	4	8	1.3	2.3	3.2	8	1.5	2.2	4.8	3	2.8	2.8	4.9		7	5.4	7.4	11
T. Coli (MPN)	23	1011	>2420	>2420	26	126	1574	>2420	24	99	1733	>2420	10	387	1595	>2420		26	816	>2420	>2420
E. coli (MPN)	23	84	365	1553	26	6	123	1986	24	12	124	2420	10	101	461	>2420		26	39	212	>2420
48 Hour Tox																					
96 Hour Tox																					
Partial Minerals (mg/L)																					
Boron	5	<0.05	<0.05	<0.05	5	<0.05	0.03	0.15	5	<0.05	<0.05	<0.05	2	<0.05		<0.05		5	<0.05	<0.05	<0.05
Calcium	5	29	46	51	5	41	54	54	5	9.9	10	11	2	24		31		5	8.4	9.0	15
Magnesium	5	15	17	20	5	11	20	21	5	3.8	4.1	45	2	11		14		5	4	4.6	7.9
Chloride	4	6.3	7.3	8.1	4	6.4	8.6	110	4	2.8	3.4	3.7	1	8.6				5	4.2	5.2	11
Sulfate	4	10	16	16	4	27	33.5	50	4	2.2	3	3.7	1	10				5	3.3	3.7	8
Hardness	5	130	180	210	5	150	220	220	5	41	43	47	2	100		130		5	38	41	69
Total Trace Elements (ug/L)																					
Copper	5	1.1	1.7	2	5	<1.0	4.4	5.8	5	<1.0	1.6	2.9	2	1.7		2.9		5	3.1	5.0	5.2
Cadmium	5	<0.1	<0.1	<0.1	5	0.23	0.39	0.76	5	<0.1	<0.1	<0.1	2	<0.1		<0.1		5	<0.1	<0.1	<0.1
Zinc	5	4.7	5.6	23	5	19	20	38	5	<2.0	<2.0	3.4	2	<2.0		<2.0		5	3.3	7.0	8
Mercury	5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	2	<0.2		<0.2		5	<0.2	<0.2	<0.2
Arsenic	5	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0	2	<4.0		<4.0		5	<4.0	<4.0	<4.0
Chromium	5	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	5	<1.0	<1.0	1.2	2	<1.0		<1.0		5	<1.0	0.5	1.1
Lead	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	2	<5.0		<5.0		5	<5.0	<5.0	<5.0
Nickel	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	2	<5.0		<5.0		5	<5.0	<5.0	<5.0

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Table 10 Summary Results: Tuolumne River Mainstem (sites with full data sets), January 2003 - April 2004

Constituent		STC210 Tuolumne River at La Grange				STC216 Tuolumne River at Legion Park				STC215 Tuolumne River at Audie Peeples Fishing Access				STC513 Tuolumne River at Shiloh Fishing Access			
		Ct.	Min	Median	Max	Ct.	Min	Median	Max	Ct.	Min	Median	Max	Ct.	Min	Median	Max
		Field Constituents, TSS, TOC, *E. coli*, Toxicity															
Temp (-C)	IMPOUNDMENT	22	10	12	13	19	9.1	19	26	20	8.7	18	26	27	8.1	16	26
DO (mg/L)		20	9.67	10.6	11.4	19	7.8	10.5	15.7	19	7.26	9.4	15.7	27	7.75	9.8	12.4
pH		22	7	7.6	8.1	19	7.3	7.7	8.2	20	7.4	7.6	8.4	27	7.5	7.8	8.2
SC (umhos/cm)		22	35	37	44	19	59	118	161	20	65	143.5	183	27	58	182	260
Turbidity (NTU)		21	0	0.7	18	18	2.1	3.2	45	19	1.7	6.8	16	25	2.6	6.9	47
TSS (mg/L)		7	<4.0	<4.0	10	3	<4.0	4.4	7.2	2	6.8		11	6	6.4	8.6	32
TOC (mg/L)		8	<1.0	1.6	2.5	4	1.7	2.2	2.4	4	2.5	2.9	3.4	7	2.2	2.5	3.7
T. Coli (MPN)		23	11	299	>2420	19	345	>2420	>2420	20	649	>2420	0.242	25	179	>2420	>2420
E. coli (MPN)		23	<1	3	31	19	11	39	613	20	27	95	613	25	8	71	649
48 Hour Tox														2	100	100	100
96 Hour Tox														2	100	100	100
		Partial Minerals (mg/L)															
Boron		5	<0.05	<0.05	<0.05	3	<0.05	<0.05	<0.05	3	<0.05	<0.05	<0.05	6	<0.05	<0.05	<0.05
Calcium		5	3.3	3.4	3.7	3	6.9	10	10	3	9.8	10	13	5	4.8	13	17
Magnesium		5	1.3	1.4	1.6	3	3.1	4.5	4.7	3	4.2	5.3	5.8	5	2.1	5.6	7.2
Chloride		4	<2.0	2.1	2.3	3	5.6	8.2	8.7	3	7.9	10	11	5	3	13	15
Sulfate		4	2.1	2.3	2.5	3	3.8	5.7	5.7	3	4.9	6.3	6.9	5	2.7	7.0	8.5
Hardness		5	14	14	16	3	30	44	45	3	42	53	57	5	21	56	71
		Total Trace Elements (ug/L)															
Copper		5	<1.0	0.5	1.2	3	<1.0	0.5	2.1	3	1.1	1.3	1.6	5	1.5	2.1	2.5
Cadmium		5	<0.1	<0.1	<0.1	3	<0.1	<0.1	<0.1	3	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1
Zinc		5	<2.0	<2.0	<2.0	3	<2.0	<2.0	<2.0	3	<2.0	<2.0	<2.0	5	<2.0	1.0	4.9
Mercury		5	<0.2	<0.2	<0.2	3	<0.2	<0.2	<0.2	3	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2
Arsenic		5	<4.0	<4.0	<4.0	3	<4.0	<4.0	<4.0	3	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0
Chromium		5	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0
Lead		5	<5.0	<5.0	<5.0	3	<5.0	<5.0	<5.0	3	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0
Nickel		5	<5.0	<5.0	<5.0	3	<5.0	<5.0	<5.0	3	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0

Table 11 Summary Results: Tuolumne River Watershed (sites with partial data sets), January 2003 - April 2004

	TUO205			TUO203		TUO204				STC205				STC207				STC214			
	Woods Creek at Highway 108			Tuolumne at Ward's Ferry		Tuolumne at Jacksonville Road				Tuolumne River at Mancini Park				Tuolumne River at 9th Street Bridge				Tuolumne River at 7th Street Bridge			
Constituent	**Ct.**	**Min**	**Max**	**Ct.**	**Min**	**Ct.**	**Min**	**Max**		**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**
Field Constituents, TSS, TOC, *E. coli*, Toxicity																					
Temp (-C)	2	7.7	8.7	1	7.9	2	7.9	13		7	12	13	16	4	11	13	13	3	13	15	16
DO (mg/L)	2	12.2	12.5	1	12.3	2	10.1	12.3		7	10.1	10.5	11.6	4	10.3	10.9	11.6	3	9.64	9.8	10.3
pH	2	8.1	8.1	1	8.4	2	7.9	8.4		7	7.5	7.5	8	4	7.5	7.6	8.1	3	7.6	7.6	7.6
SC (umhos/cm)	2	417	436	1	23	2	23	37		7	87	191	206	4	53	182.5	190	3	170	176	181
Turbidity (NTU)	2	2.2	5.4	1	0.9	2	0.9	25		7	1.6	3.0	3.3	4	2.8	4.4	12	3	4.8	5.8	6.7
TSS (mg/L)										2	<4.0		<4.0	1	20			2	6		6
TOC (mg/L)										2	1.4		2.1	1	2.6			1	2.1		
T. Coli (MPN)	2	240	548	1	153	2	71	153		7	313	980	>2420	4	397	987	>2420	3	328	2420	>2420
E. coli (MPN)	2	12	68	1	1	2	1	2		7	12	24	118	4	16	36	133	3	29	63	613
48 Hour Tox																					
96 Hour Tox																					
Partial Minerals (mg/L)																					
Boron										1	<0.05			1	<0.05			1	<0.05		
Calcium										1	14			1	4.5			1	14		
Magnesium										1	6.2			1	2			1	6.2		
Chloride										1	15			1	3.6			1	13		
Sulfate										1	7			1	2.5			1	7		
Hardness										1	61			1	20			1	59		
Total Trace Elements (ug/L)																					
Copper										1	1.1			1	1.8			1	1.8		
Cadmium										1	<0.1			1	<0.1			1	<0.1		
Zinc										1	<2.0			1	3.1			1	2		
Mercury										1	<0.2			1	<0.2			1	<0.2		
Arsenic										1	<4.0			1	<4.0			1	<4.0		
Chromium										1	<1.0			1	<1.0			1	<1.0		
Lead										1	<5.0			1	<5.0			1	<5.0		
Nickel										1	<5.0			1	<5.0			1	<5.0		

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Table 12 Summary Results: Merced River Watershed, January 2003 - April 2004

	MAR202			MAR203				MAR201				MER209				MER202				MER546			
	Merced River at Briceburg			Merced River at Bagby				Merced River at Highway 49				Merced River at Merced Falls				Merced River at Highway 99				Merced River at River Road			
Constituent	**Ct.**	**Min**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Max**		**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**	**Ct.**	**Min**	**Median**	**Max**
Field Constituents, TSS, TOC, *E. coli*, Toxicity																							
Temp (-C)	3	7.2	10	16	5.3	18	24	2	5.8	7.6		22	10	13	16	22	8.1	17	29	30	9.3	17	27
DO (mg/L)	3	11.5	12.2	16	6.44	9.8	13.8	2	13	13.6		22	9.87	10.7	12.4	22	6.67	10	16.7	30	7.5	9.57	13
pH	3	7.7	7.9	16	6.5	7.7	7.9	2	7.5	8		22	7	7.5	8.1	22	7.2	7.7	8.4	30	7.4	7.75	8.4
SC (umhos/cm)	3	21	90	16	10	52	92	2	35	40		22	25	44	60	22	18	84.5	108	30	37	168	416
Turbidity (NTU)	3	0.4	2.9	15	0.4	1.2	11	2	0.4	0.4		21	1.1	1.9	3	22	2.7	5	1385	25	2.7	6.3	53.2
TSS (mg/L)	2	<5.0	4	5	<4.0	4.8	12					7	<4.0	<4.0	<5.0	6	<4.0	2	8	5	5.6	8.4	16
TOC (mg/L)	2	1.4	1.5	6	1.4	2.4	4.3					8	1.1	1.9	3.2	7	1.5	3	2.9	7	1.7	2.5	3.89
T. Coli (MPN)	3	8	50	16	10	2203	>2420	2	5	123		22	84	633	2420	22	345	2420	>2420	26	344	>2420	>2420
E. coli (MPN)	3	2	16	16	1	5	517	2	<1	2		22	4	15	49	22	13	56	133	26	19	84	727
48 Hour Tox																				2	85	93	100
96 Hour Tox																				2	100	100	100
Partial Minerals (mg/L)																							
Boron	1	<0.05		4	<0.05	<0.05	<0.05					5	<0.05	<0.05	<0.05	5	<0.05	<0.05	<0.05	10	<0.05	<0.05	<0.05
Calcium	1	10		4	1.5	2.4	5.1					5	4.6	4.7	4.8	5	5.1	6.8	7.6	4	5.7	15	18
Magnesium	1	3		4	0.3	0.5	1.2					5	1.3	1.4	1.5	5	1.7	2.3	2.5	4	1.9	5	5.8
Chloride	1	3.1		3	<2.0	2	2.1					4	2.1	2.4	2.6	5	2.6	3.7	4.2	4	3.1	14	23
Sulfate	1	6		3	<2.0	1	3.6					4	2.9	3.1	3.2	5	3	4.6	5.9	4	3.4	11	15
Hardness	1	37		4	5	8	18					5	17	18	18	5	20	26	29	4	22	58	68
Total Trace Elements (ug/L)																							
Copper	1	<1.0		4	<1.0	0.8	1.6					5	<1.0	0.5	1.1	5	<1.0	1.2	1.7	5	<1.0	1.6	1.9
Cadmium	1	<0.1		4	<0.1	<0.1	<0.1					5	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1	5	<0.1	<0.1	<0.1
Zinc	1	<2.0		4	<2.0	<2.0	<2.0					5	<2.0	<2.0	<2.0	5	<2.0	<2.0	<2.0	5	<2.0	<2.0	<2.0
Mercury	1	<0.2		4	<0.2	<0.2	<0.2					5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2	5	<0.2	<0.2	<0.2
Arsenic	1	<4.0		4	<4.0	<4.0	<4.0					5	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0	5	<4.0	<4.0	<4.0
Chromium	1	<1.0		4	<1.0	<1.0	<1.0					5	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0
Lead	1	<5.0		4	<5.0	<5.0	<5.0					5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0
Nickel	1	<5.0		4	<5.0	<5.0	<5.0					5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0

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7.1 Farmington Drainage Area (Table 5)

Maximum temperatures were highest at Littlejohns Creek at Sonora Road and Austin Road (30°C and 29°C, respectively). Median temperatures were highest at Duck Creek at Highway 4. The overall lowest temperature was at Lone Tree Creek at Austin Road (4.7°C) and median lowest temperature was at French Camp Slough at Airport Way (17°C).

Minimum dissolved oxygen concentrations ranged from 3.74 mg/L at Littlejohns Creek at Austin Road to 7.29 mg/L at Littlejohns Creek at Sonora Road. Median concentrations were tighter in range, with the lowest median at Duck Creek at Highway 4 (7.9 mg/L) and the highest median at French Camp Slough at Airport Way (9.8 mg/L). Maximum concentrations were more variable than minimum concentrations, and ranged from 13.5 mg/L at Duck Creek at Highway 4 to 18.5 mg/L at Lone Tree Creek at Austin Road.

Specific conductance ranged from 87 umhos/cm at Lone Tree Creek at Austin Road to 614 umhos/cm at Littlejohns Creek at Austin Road.

The pH minimums ranged from 7.1 at Lone Tree Creek at Austin Road to 7.5 at Littlejohns Creek at Sonora Road. Median pH ranged from 7.5 at Duck Creek at Highway 4 to 7.8 at Littlejohns Creek at Sonora Road, Littlejohns Creek at Austin Road, and French Camp Slough at Airport Way. Maximum pH ranged from 8.0 at Littlejohns Creek at Sonora Road and Duck Creek at Highway 4 to 9.7 at Littlejohns Creek at Austin Road.

Turbidity, total suspended solids, and total organic carbon were lowest in samples collected at Littlejohns Creek at Sonora Road. The highest minimum, median, and maximum turbidity concentrations came from samples collected at Duck Creek at Highway 4. The highest total organic carbon concentrations came from samples collected at Littlejohns Creek at Austin Road.

Total coliform maximum concentrations were above reporting limits for all sites. The only site with a median concentration that was within reporting limits was Littlejohns Creek at Sonora Road (1986 MPN/100ml).

E. coli maximum concentrations were above reporting limits at all sites except French Camp Slough at Airport Way. However, median concentrations at French Camp, at 397 MPN/100ml, and Lone Tree Creek, at 488 MPN/100ml were the highest in the watershed. The lowest median concentration came from a sample collected at Duck Creek at Highway 4 (101 MPN/100ml). The minimum concentration at Duck Creek at Highway 4 was within 1 MPN of the lowest minimum *E. coli* concentration collected in the watershed from Littlejohns Creek at Sonora Road (9 MPN/100ml).

No toxicity data was collected at any sites in this subbasin.

Samples analyzed for partial minerals were generally the lowest at Duck Creek at Highway 4. The exceptions were minimum chloride, which was lowest at Littlejohns Creek at Sonora Road and the maximum sulfate concentration at Lone Tree Creek at Austin Road. The highest concentrations were generally found in samples from Littlejohns Creek at Sonora Road and Littlejohns Creek at Austin Road. While boron and sulfate concentrations were higher in the upstream site, calcium, magnesium, chloride, and hardness increased moving upstream to downstream.

Trace element samples were below reporting limits at all sites for cadmium, mercury, lead and nickel. Samples analyzed for arsenic were below reporting limits at all sites except Littlejohns Creek at Sonora Road, with a maximum concentration of 6.8 ug/L. Zinc and chromium samples

were below reporting limits at Littlejohns Creek at Sonora Road. However, among the other sites, the lowest minimum, median, and maximum zinc and chromium concentrations came from samples collected at Littlejohns Creek at Austin Road. Minimum zinc concentration was highest at French Camp Slough at Airport Way (7ug/l) and the highest median and maximum zinc concentrations came from samples collected at Lone Tree Creek at Austin Road (8.3 ug/l and 14 ug/l, respectively). The highest median and maximum chromium concentrations came from samples collected at French Camp Slough at Airport Way (2.1 ug/l and 2.8 ug/l, respectively).

7.2 Valley Floor Drainage Area to San Joaquin River (Tables 6 and 7)

The greatest variation in temperature was at MID Lateral 6/8 at Dunn Road, with the lowest minimum (6 -C) and highest maximum (27 –C). The highest minimum temperature was 14° at TID Harding Drain at Carpenter Road and MID Lateral ¾ at Paradise Road. The highest median temperature was 22°C at TID Lateral 7 at Central Avenue.

The minimum dissolved oxygen range was widest in the Valley Floor Drainage Area than any of the other Eastside Basin subwatershed. The lowest minimum concentrations were 0.40 mg/L at MID Main Drain at Shoemake Road (STC211) and 1.24 mg/L at TID Lower Lateral 2 at Grayson Road (STC208). Aside from these two sites, the minimum dissolved oxygen ranged from 5.48 mg/L at MID Lateral ¾ at Paradise Road (STC204) to 10.5 mg/L at TID Lateral 6/7 at Central Avenue (MER201). Median dissolved oxygen concentrations ranged from 5.7 mg/L at MID Main Drain at Shoemake Road (STC211) to 14.9 mg/L at TID Lateral 6/7 at Central Avenue. Maximum DO ranged from 11.7 mg/L at MID Main Drain Inlet to Miller Lake (STC202) to 19.6 mg/L at MID Lateral ¾ at Paradise Road (STC204).

The pH ranged from 7.0 to 9.4 among all Valley Floor sites.

The TSS, TOC, total coliform, and *E. coli* concentrations were lowest at Lower Lateral 2 at Grayson Road. Concentrations of these constituents were generally highest at MID Main Drain at Shoemake Road. Maximum total coliform concentrations at all sites were greater than the reporting limit (2420 MPN/100ml), and median concentrations were greater than the reporting limit at most sites, except MID Lateral ¾ at Paradise Road and TID Lower lateral 2 at Grayson Road. Median *E. coli* concentrations ranged from 25 MPN/100 ml at TID Lower Lateral 2 at Grayson to above the reporting limit at the MID Main Drain at Shoemake Road. Maximum *E. coli* concentrations were above the reporting limit at MID Main Drain at Shoemake Road, MID Lateral 6/8 at Dunn Road, MID Lateral ¾ at Paradise Road, and TID Lateral 6/7 at Central Avenue. At all other sites, maximum concentrations ranged from 98 MPN/100 ml at TID Lower Lateral 2 at Grayson to 1986 MPN/100ml at TID Lateral 7 at Central Avenue.

Two sets of toxicity samples were collected and analyzed from Harding Drain at Carpenter Road. None of the results were significantly different from the control, and all but one sample for 48 hour toxicity using *Ceriodaphnia dubia*, resulted in 100% survival.

Partial mineral concentrations were generally lowest at Lateral 6/8 at Dunn Road and Lower Lateral 2 at Grayson Road. The highest median and maximum concentrations were generally at MID Main Drain at Shoemake Road and Harding Drain at Carpenter Road. However, the median and maximum boron concentrations were highest at TID Lateral 7 at Central Avenue.

Trace element results were generally below reporting limits. Mercury was below reporting limits in all samples collected from each site. Cadmium, lead, and nickel samples were above the reporting limit only at Harding Drain at Carpenter Road. Chromium concentrations were above the reporting limit at Harding Drain and MID Main Drain at Shoemake Drive. Arsenic and zinc concentrations were above the reporting limit for most samples, while copper was above reporting limit at all sites, with a maximum of 30 ug/l at Harding Drain.

7.3 Stanislaus River Watershed (Table 8)

Results from Stanislaus River at Camp Nine Road and Stanislaus River at Parrott's Ferry are not included in this section due to the limited number of samples analyzed at each site. No additional sites were included from upstream of the reservoir. The remaining sites were just below the dam at Knight's Ferry and just above the confluence with the SJR at Caswell Park.

Minimum and median temperatures were similar at the two Stanislaus River sites. However, maximum temperatures just below the dam was much lower than at the mouth of the SJR (15-C vs. 23-C, respectively).

Minimum and median dissolved oxygen were higher at Knight's Ferry than Caswell Park. Maximum dissolved oxygen was higher at Caswell Park.

Summary pH results were similar between the sites.

All summary SC, turbidity, TSS, total coliform, and *E. coli* results were higher at Caswell Park than Knight's Ferry. Minimum and median TOC were higher at Caswell, but maximum TOC was the same at both sites.

Of all the other constituents where data was above reporting limits (calcium, magnesium, chloride, sulfate, hardness, copper, and zinc), results were higher at Caswell Park than Knight's Ferry.

Remaining trace element results, including boron, were below reporting limits.

7.4 Tuolumne River Watershed (Tables 9, 10, and 11)

As indicated in Table Table 1, certain sites in the Tuolume River Watershed were not monitored for the entire study period. However, replacement sites were included to allow for comparisons within and between tributary sites and main stem river sites. Tables 9, 10, and 11 were separated so that results from all sites could be summarized. However, this review will be limited to summaries in Tables 9 and 10 since they have more complete data sets (at least one result per calendar quarter).

Most data collected from STC210 – Tuolumne River at La Grange - is unique in that concentrations typically are the lowest for the watershed. If the concentration is not the lowest, such as maximum turbidity, TSS, and TOC, the concentration is similar to the lowest maximum concentration (ie., turbidity at La Grange was 18 NTU, while the lowest maximum was 16 NTU at Audie Peeples). The TOC concentrations at the other sites ranged from 45 NTU to 300 NTU. The highest minimum temperature and dissolved oxygen concentration also were observed at La Grange, resulting in the most stable results overall for these two constituents.

Temperature throughout the watershed ranged from a minimum of 5.8 –C at Sullivan Creek at Algerine Road and Dry Creek at La Loma Road to a maximum of 28 –C at Curtis Creek at Algerine Road. Minimum temperatures were higher in the River sites (8.1 – 10 ℃) than the tributary sites (5.8 – 6.3 ℃). However, median and maximum temperatures did not have a clear division between tributary and river sites. In general, the maximum temperature at the river sites was higher than the tributaries. Exceptions were the maximum temperature at Tuolumne River at La Grange, with the lowest maximum overall, and Curtis Creek, with the highest maximum overall.

Dissolved oxygen concentrations ranged from 6 mg/L at Dry Creek at La Loma Road to 16 mg/L at Curtis Creek at Algerine Road and Dry Creek at La Loma Road. The highest minimum, median, and maximum concentrations among the tributary sites were 9.14, 12.8, and 16.0 mg/L at Curtis Creek. Minimum and median DO concentrations were lowest at Dry Creek (6.0 and 8.6 mg/L), but the lowest maximum concentration was 15.1 mg/L at Sullivan Creek.

The pH ranged from 7.0 – 8.7 overall.

Specific conductance (SC) concentrations ranged from 35 umhos/cm at Tuolumne River at La Grange to 492 umhos/cm at Woods Creek at Mill Villa Road. The SC minimum, median and maximum concentrations were highest at both the Woods Creek sites. Concentrations both at Woods Creek and throughout the River sites increased moving upstream to downstream.

Turbidity concentrations ranged from 0 NTU at La Grange to 300 NTU at Curtis Creek. River site concentrations were highest at Tuolumne River at Shiloh (47 NTU).

Minimum TSS concentrations were below reporting limits at all sites except the three sites lowest in the watershed – Dry Creek at La Loma Road, Tuolumne River at Audie Peeples and Tuolumne River at Shiloh. Maximum concentrations ranged from 7.2 mg/L at Tuolumne River at Legion Park to 32 mg/L at Tuolumne River at Shiloh.

The lowest TOC concentration overall was <1 mg/L at Tuolumne River at La Grange, the only result below reporting limits. Concentrations among the rest of the sites ranged from 1.3 mg/L at Woods Creek at Mill Villa to 11 mg/L at Dry Creek. Minimum and maximum concentrations (1.3, and 3.2 mg/L, respectively) were lowest among the tributary sites at Woods Creek at Mill Villa Road. The lowest median at the tributary sites was 2.2 mg/l at Sullivan Creek at Algerine Road. The highest tributary concentrations were 5.4, 7.8, and 11 mg/L at Dry Creek at La Loma Road. River site concentrations were highest at the downstream sites, Tuolumne River at Audie Peeples and Tuolumne River at Shiloh (3.4 mg/l and 3.7 mg/l, respectively).

Maximum total coliform concentrations were above reporting limits (>2420 MPN/100mL) at all sites. Tributary minimum, median, and maximum concentrations were highest at Woods Creek at Motherlode Fairgrounds, with low concentrations sporadically distributed between sites. The highest minimum total coliform concentrations among the River sites were at Tuolumne River at Audie Peeples.

In the tributary sites, the highest total coliform concentrations did not correlate with the highest *E. coli* concentration. The highest *E.* coli reported for a tributary was >2420 MPN/100ml in Dry Creek. However, in the River sites, the lowest total coliform and *E. coli* concentrations were both collected at Tuolumne River at La Grange. The highest minimum and median *E. coli* concentrations came from samples collected at Tuolumne River at Audie Peeples, 27 MPN/100ml and 95 MPN/100ml, respectively.

Toxicity testing was conducted twice at Tuolumne River at Shiloh. Both sets of samples resulted in 100% survival for both *C. dubia* and *P. pimephales*.

Mineral scan results for boron concentrations were below reporting limits (0.05 mg/l) for samples collected at all sites. In general the lowest results for calcium, magnesium, chloride, sulfate, and hardness were at Tuolumne River at La Grange. The highest concentrations were generally at Woods Creek at Mill Villa Road. The exceptions were minimum and maximum magnesium. The highest minimum magnesium concentration was at Woods Creek at Motherload Fairgrounds (15 mg/l), while the highest maximum magnesium concentration was at Sullivan Creek at Algerine Road (45 mg/l).

All results for mercury, arsenic, lead, and nickel were below reporting limits. Cadmium concentrations ranged from 0.23 – 0.76 ug/L at Woods Creek at Mill Villa Road, the only site where cadmium concentrations were above the reporting limit. Chromium concentrations were higher at Sullivan Creek at Algerine Road than Dry Creek at La Loma Road, the only two sites where concentrations were enumerated. Zinc concentrations ranged from 1.8 – 38 ug/L. The lowest median and maximum concentrations above the reporting limit were 1.8 and 3.4 ug/L at Sullivan Creek at Algerine Road. The highest minimum, median, and maximum zinc concentrations (19, 20, and 38 ug/L) came from samples collected at Woods Creek at Mill Villa Road. Copper concentrations ranged from 1.1 – 5.8 ug/L between all sites within the watershed. The lowest median and maximum concentrations were 0.5 and 1.2 ug/L at Tuolumne River at La Grange. The highest minimum and median concentrations (3.1 and 5.0 mg/l, respectively) were from samples collected at Dry Creek at La Loma Road. The highest maximum concentration came from a sample analyzed at Woods Creek at Mill Villa Road (5.8 ug/L), which was similar to the maximum concentration of 5.2 ug/L at Dry Creek at La Loma Road.

7.5 Merced River Watershed (Table 12)

Similar to the Tuolumne Watershed, limited monitoring occurred at some sites within the Merced Watershed. Sites that were not monitored at least once quarterly are not included in this summary.

Temperatures ranged from 5.3 ℃ at Merced River at Bagby to 29 ℃ at Merced River at Highway 99. As with Tuolumne River at La Grange, temperature varied the least at Merced River at Merced Falls, which is within a mile of the reservoir release.

Dissolved oxygen concentrations ranged from 6.44 mg/L at Merced River at Bagby to 16.7 mg/L at Merced River at Highway 99.

The pH ranged from 6.5 at Merced River at Bagby to 8.4 at Merced River at Highway 99 and Merced River at River Road.

Specific conductance ranged from 10 umhos/cm at Merced River at Bagby to 416 umhos/cm at Merced River at River Road. The highest minimum, median, and maximum concentrations (37, 167.5, and 416 umhos/cm, respectively) were observed at Merced River at River Road.

Turbidity concentrations ranged from 0.4 NTU at Merced River at Bagby Road to 1385 NTU at Merced River at Highway 99. Turbidity minimum, and maximum concentrations (2.7 and 1385 NTU) were highest at Merced River at Highway 99. The highest median concentration was 6.3 at Merced River at River Road, although the maximum turbidity recorded at the site was 53.2 NTU.

The TSS minimum concentrations at all sites except Merced River at River Road were below reporting limits. All TSS data collected from Merced River at Merced Falls was below reporting limits. The minimum, median, and maximum concentration results were highest at Merced River at River Road (5.6, 10, and 16 mg/L, respectively).

The TOC concentrations ranged from 1.1 mg/L at Merced River at Merced Falls to 4.3 mg/L at Merced River at Bagby Road. Minimum and median results were lowest at Merced River at Merced Falls (1.1 and 1.9 mg/L). The highest minimum concentration was 1.7 mg/L at Merced River at River Road, and the highest median concentration was 2.7 mg/l at Merced River at Highway 99.

Total coliform concentrations were highest in the lower watershed sites. Minimum concentrations were 344 and 345 MPN/100 ml, while median and maximum concentrations either neared or were above the reporting limit of 2420 MPN/100 ml. Maximum concentrations were also above

reporting limits (>2420 MPN/100mL) at all sites except Merced River at Merced Falls. The lowest concentrations varied between Merced River at Bagby and Merced River at Merced Falls. The lowest minimum concentration was 10 MPN/100 mL at Merced River at Bagby, while the lowest median and maximum concentrations were 633 and 2420 MPN/100 mL at Merced River at Merced Falls.

E. coli concentrations ranged from 1 MPN/100mL at Merced River at Bagby to 727 MPN/100mL at Merced River at River Road. Minimum and median *E. coli* concentrations were lowest (1 and 5 MPN/100 mL) at Merced River at Bagby, while the lowest maximum concentration was 49 MPN/100mL at Merced River at Merced Falls. The *E. coli* results at Merced River at River Road were highest (19, 84, and 727 MPN/100mL for the minimum, median, and maximum, respectively).

Boron concentrations were below reporting limits at all sites. Mineral concentrations were generally lowest at Merced River at Bagby. The exceptions were maximum calcium and sulfate concentrations at Merced River at Merced Falls. Maximum hardness at Merced Falls was the same as maximum hardness at Merced River at Bagby (18 mg/l).

Trace element results were below reporting limits for all constituents except copper. Copper concentrations at the upperwatershed site, Merced River at Bagby, was similar to concentrations at the lower watershed, with all concentrations below 2 ug/l.